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- STN
TRANSCRIPT -

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STRUCTURE FILE UPDATES: 1 OCT 2002 HIGHEST RN 457857-22-6
DICTIONARY FILE UPDATES: 1 OCT 2002 HIGHEST RN 457857-22-6

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP
PROPERTIES for more information. See STN Note 27, Searching Properties
in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=> s ethyl acetate/cn
L1 1 ETHYL ACETATE/CN

=> s ethanol
L2 188429 ETHANOL

=> s l2/cn
L3 1 (ETHANOL/CN)

=> file caplus		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	12.38	12.59

FILE 'CAPLUS' ENTERED AT 11:17:50 ON 03 OCT 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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FILE COVERS 1907 - 3 Oct 2002 VOL 137 ISS 14
FILE LAST UPDATED: 2 Oct 2002 (20021002/ED)

This file contains CAS Registry Numbers for easy and accurate
substance identification.

CAS roles have been modified effective December 16, 2001. Please
check your SDI profiles to see if they need to be revised. For
information on CAS roles, enter HELP ROLES at an arrow prompt or use
the CAS Roles thesaurus (/RL field) in this file.

```
=> s l1 and l3 and ethanol and (ethyl acetate)
    19643 L1
    139327 L3
    178063 ETHANOL
        1024 ETHANOLS
    178603 ETHANOL
        (ETHANOL OR ETHANOLS)
    307113 ETHYL
        20 ETHYLS
    307129 ETHYL
        (ETHYL OR ETHYLS)
    554374 ET
        5721 ETS
    558789 ET
        (ET OR ETS)
    773796 ETHYL
        (ETHYL OR ET)
    418760 ACETATE
    24327 ACETATES
    430126 ACETATE
        (ACETATE OR ACETATES)
    22617 ETHYL ACETATE
        (ETHYL(W) ACETATE)
L4      3763 L1 AND L3 AND ETHANOL AND (ETHYL ACETATE)
```

```
=> s l4 and dehydrogenation
    41818 DEHYDROGENATION
    435 DEHYDROGENATIONS
    41950 DEHYDROGENATION
        (DEHYDROGENATION OR DEHYDROGENATIONS)
L5      43 L4 AND DEHYDROGENATION
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```
=> s l5 and distil?
    103878 DISTIL?
    154024 DISTD
        1 DISTDS
    154024 DISTD
        (DISTD OR DISTDS)
    23002 DISTG
    152433 DISTN
    1666 DISTNS
    153186 DISTN
        (DISTN OR DISTNS)
    340165 DISTIL?
        (DISTIL? OR DISTD OR DISTG OR DISTN)
L6      4 L5 AND DISTIL?
```

=> d 1-4

```
L6      ANSWER 1 OF 4  CAPLUS  COPYRIGHT 2002 ACS
AN      2000:240719  CAPLUS
DN      132:252790
TI      Hydrogenation and distillation process for the purification of
        alkyl alkanooates
IN      Colley, Stephen William; Harris, Norman; Rathmell, Colin
PA      Kvaerner Process Technology Limited, UK
SO      Eur. Pat. Appl., 22 pp.
        CODEN: EPXXDW
DT      Patent
LA      English
FAN.CNT 1
```

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	EP 992484	A1	20000412	EP 1998-308013	19981001

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO
 WO 2000020374 A1 20000413 WO 1999-GB3228 19990929
 W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU,
 CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL,
 IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD,
 MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK,
 SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ,
 BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,
 DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,
 CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
 AU 9961071 A1 20000426 AU 1999-61071 19990929
 EP 1117630 A1 20010725 EP 1999-947694 19990929
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO
 BR 9914248 A 20011204 BR 1999-14248 19990929
 JP 2002526519 T2 20020820 JP 2000-574492 19990929
 PRAI EP 1998-308013 A 19981001
 WO 1999-GB3228 W 19990929
 RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2002 ACS
 AN 2000:240716 CAPLUS
 DN 132:252789
 TI Distillation process for the recovery of pure ethyl
 acetate from mixtures of ethyl acetate,
 ethanol and water
 IN Colley, Stephen William; Fawcett, Christopher Richard; Sharif, Mohammad;
 Tuck, Michael William Marshall; Watson, David John; Wood, Michael Anthony
 PA Kvaerner Process Technology Limited, UK
 SO Eur. Pat. Appl., 18 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 992482	A1	20000412	EP 1998-308010	19981001
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
WO 2000020373	A1	20000413	WO 1999-GB3226	19990929
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9961069	A1	20000426	AU 1999-61069	19990929
EP 1117629	A1	20010725	EP 1999-947692	19990929
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002526518	T2	20020820	JP 2000-574491	19990929
PRAI EP 1998-308010	A	19981001		
WO 1999-GB3226	W	19990929		
RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT				

L6 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2002 ACS
 AN 2000:227366 CAPLUS

DN 132:238697
 TI Process for the manufacture of **ethyl acetate** from
ethanol
 IN Colley, Stephen William; Fawcett, Christopher Richard; Rathmell, Colin;
 Tuck, Michael William Marshall
 PA Kvaerner Process Technology Limited, UK
 SO Eur. Pat. Appl., 22 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 990638	A1	20000405	EP 1998-308011	19981001
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	WO 2000020375	A1	20000413	WO 1999-GB3230	19990929
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9961073	A1	20000426	AU 1999-61073	19990929
	EP 1117631	A1	20010725	EP 1999-947696	19990929
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2002526520	T2	20020820	JP 2000-574493	19990929
PRAI	EP 1998-308011	A	19981001		
	WO 1999-GB3230	W	19990929		

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2002 ACS
 AN 1997:436985 CAPLUS
 DN 127:150374
 TI Study on separation of one-step synthesized **ethyl acetate**. II. Extractive **distillation** column and washing tower
 AU Lei, Liangheng
 CS Dep. Chemical Eng., Qinghua Univ., Beijing, 100084, Peop. Rep. China
 SO Xiandai Huagong (1996), 16(11), 34-36
 CODEN: HTKUDJ; ISSN: 0253-4320
 PB Zhongguo Huagong Xinxu Zhongxin
 DT Journal
 LA Chinese

=> d abs 4

L6 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2002 ACS
 AB The process conditions of extractive **distn.** column and washing tower for the sepn. of one-step synthesized **Et acetate** by **dehydrogenation** of EtOH were studied, the feasibility of removing EtOH and butanone in **Et acetate** by using the extractive **distn.** column and washing tower using water as extractant was verified exptl.

=> d his

(FILE 'HOME' ENTERED AT 11:16:54 ON 03 OCT 2002)

FILE 'REGISTRY' ENTERED AT 11:17:07 ON 03 OCT 2002

L1 1 S ETHYL ACETATE/CN
L2 188429 S ETHANOL
L3 1 S L2/CN

FILE 'CAPLUS' ENTERED AT 11:17:50 ON 03 OCT 2002

L4 3763 S L1 AND L3 AND ETHANOL AND (ETHYL ACETATE)
L5 43 S L4 AND DEHYDROGENATION
L6 4 S L5 AND DISTIL?

=> s l5 and hydrogenation
150132 HYDROGENATION
1906 HYDROGENATIONS
150379 HYDROGENATION
(HYDROGENATION OR HYDROGENATIONS)
L7 7 L5 AND HYDROGENATION

=> d 1-7

L7 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2002 ACS
AN 2000:240719 CAPLUS
DN 132:252790
TI **Hydrogenation** and distillation process for the purification of
alkyl alkanooates
IN Colley, Stephen William; Harris, Norman; Rathmell, Colin
PA Kvaerner Process Technology Limited, UK
SO Eur. Pat. Appl., 22 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 992484	A1	20000412	EP 1998-308013	19981001
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	WO 2000020374	A1	20000413	WO 1999-GB3228	19990929
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9961071	A1	20000426	AU 1999-61071	19990929
	EP 1117630	A1	20010725	EP 1999-947694	19990929
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	BR 9914248	A	20011204	BR 1999-14248	19990929
	JP 2002526519	T2	20020820	JP 2000-574492	19990929
PRAI	EP 1998-308013	A	19981001		
	WO 1999-GB3228	W	19990929		

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2002 ACS
AN 2000:240716 CAPLUS
DN 132:252789
TI Distillation process for the recovery of pure **ethyl acetate** from mixtures of **ethyl acetate**,

ethanol and water

IN Colley, Stephen William; Fawcett, Christopher Richard; Sharif, Mohammad;
Tuck, Michael William Marshall; Watson, David John; Wood, Michael Anthony
PA Kvaerner Process Technology Limited, UK
SO Eur. Pat. Appl., 18 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 992482	A1	20000412	EP 1998-308010	19981001
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	WO 2000020373	A1	20000413	WO 1999-GB3226	19990929
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9961069	A1	20000426	AU 1999-61069	19990929
	EP 1117629	A1	20010725	EP 1999-947692	19990929
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2002526518	T2	20020820	JP 2000-574491	19990929
PRAI	EP 1998-308010	A	19981001		
	WO 1999-GB3226	W	19990929		
RE.CNT 1	THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT				

L7 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2002 ACS

AN 2000:227366 CAPLUS

DN 132:238697

TI Process for the manufacture of **ethyl acetate** from **ethanol**

IN Colley, Stephen William; Fawcett, Christopher Richard; Rathmell, Colin;
Tuck, Michael William Marshall
PA Kvaerner Process Technology Limited, UK
SO Eur. Pat. Appl., 22 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 990638	A1	20000405	EP 1998-308011	19981001
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	WO 2000020375	A1	20000413	WO 1999-GB3230	19990929
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9961073	A1	20000426	AU 1999-61073	19990929
	EP 1117631	A1	20010725	EP 1999-947696	19990929

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO

JP 2002526520 T2 20020820 JP 2000-574493 19990929

PRAI EP 1998-308011 A 19981001

WO 1999-GB3230 W 19990929

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2002 ACS

AN 1991:121425 CAPLUS

DN 114:121425

TI Raney nickel-catalyzed new reaction - **ethanol** transformation to
ethyl acetate and butanol

AU Zhang, Wenzhong; Gao, Runxiong; Su, Guiqin; Jiao, Fengying; Yin, Yuanqi

CS Lanzhou Inst. Chem. Phys., Chin. Acad. Sci., Lanzhou, Peop. Rep. China

SO Fenzi Cuihua (1990), 4(3), 219-25

CODEN: FECUEN

DT Journal

LA Chinese

L7 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2002 ACS

AN 1989:484803 CAPLUS

DN 111:84803

TI Chemical reaction and catalyst, particularly for **hydrogenation**,
dehydrogenation, amination, and/or hydrogenolysis

IN Van Beijnum, Johannes; Van Dillen, Adrianus Jacobs; Geus, John Wilhelm

PA Engelhard De Meern B. V., Neth.

SO Eur. Pat. Appl., 14 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 320074	A1	19890614	EP 1988-202820	19881209
	EP 320074	B1	19950419		
	R: BE, DE, FR, GB, IT, NL				
	DK 8806783	A	19890612	DK 1988-6783	19881206
	BR 8806523	A	19890822	BR 1988-6523	19881209
	CN 1034493	A	19890809	CN 1988-109239	19881210
	JP 02000216	A2	19900105	JP 1988-312133	19881212
	JP 2784930	B2	19980813		
	KR 9703515	B1	19970318	KR 1988-16516	19881212
	IN 172447	A	19930807	IN 1988-MA888	19881214
	US 5198592	A	19930330	US 1990-597093	19901015
	IN 175540	A	19950701	IN 1992-MA383	19920622
PRAI	NL 1987-3002	A	19871211		
	US 1988-281194	B1	19881207		
	IN 1988-MA888	A1	19881214		

L7 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2002 ACS

AN 1989:142308 CAPLUS

DN 110:142308

TI Reduced copper chromite **hydrogenation** catalysts

IN Turner, Keith; Sharif, Mohammad; Scarlett, John; Carter, Anthony Benjamin;
Webb, Geoffrey

PA Davy McKee (London) Ltd., UK

SO Eur. Pat. Appl., 20 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	EP 301853	A1	19890201	EP 1988-306954	19880728
	EP 301853	B1	19920205		
	R: BE, DE, ES, FR, GB, IT, NL				
	CA 1325419	A1	19931221	CA 1988-573052	19880726
	US 5030609	A	19910709	US 1988-224686	19880727
	JP 01127042	A2	19890519	JP 1988-189527	19880728
	JP 2704413	B2	19980126		
	ES 2030866	T3	19921116	ES 1988-306954	19880728
	IN 172702	A	19931113	IN 1988-MA542	19880728
	CN 1031336	A	19890301	CN 1988-104740	19880729
	CN 1025159	B	19940629		
	RU 2028194	C1	19950209	RU 1988-4356174	19880729
PRAI	GB 1987-17989		19870729		

L7 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2002 ACS
AN 1987:517317 CAPLUS
DN 107:117317
TI Oxygenates formed from **ethanol** during Fischer-Tropsch synthesis
AU Tau, Li Min; Robinson, Rob; Ross, R. Dudley; Davis, Burtron H.
CS Kentucky Energy Cabinet Lab., Univ. Louisville, Lexington, KY, 40512, USA
SO J. Catal. (1987), 105(2), 335-41
CODEN: JCTLA5; ISSN: 0021-9517
DT Journal
LA English

=> d abs 7

L7 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2002 ACS
AB Addn. of C14-labeled **ethanol** to a syngas feed (H/CO = 0.78) resulted in **dehydrogenation** to acetaldehyde to establish an equil. ratio of alc. to aldehyde. In addn., EtOAc and acetal were identified, using both gas chromatog.-mass spectroscopic and gas chromatog.-IR techniques, as significant reaction products that, because of the 14C content, were derived from the added **ethanol**. C>2 alcs. were also formed from **ethanol**; their relative concns. suggested that aldol condensation of acetaldehyde contributed to the overall reaction mechanism. In the stirred autoclave reactor, more **ethanol** was converted to other oxygenates than was incorporated into higher carbon no. hydrocarbons; however, **ethanol** was a chain growth initiator. The data were consistent with significant accumulation of **ethanol** in the reactor above the concn. in the gas feed when octacosane was used as a solvent with a 10 wt.% Fe catalyst on high-surface-area (700 m2/g) silica support.

=> d abs 6

L7 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2002 ACS
AB A Cu chromite **hydrogenation** catalyst of enhanced activity is obtained by an ante-preredn. treatment in which a Cu chromite catalyst precursor is soaked in a reducing atm. at temps. below a preredn. temp. (typically .apprx.140.degree.) at which appreciable preredn. of the catalyst can be detected. This catalyst is characterized by particles of reduced Cu, substantially all of which have an av. particle size <300 .ANG., more specifically which have an av. particle size <100 .ANG., and which are substantially uniformly distributed on a Cr-contg. support. Typically, such catalysts exhibit a Cu surface area of .apprx.18.5 m2/g, as detd. by N2O decompn. at 20.degree., compared to a corresponding Cu surface area of 4.5 m2/g of a catalyst which has been produced by conventional preredn. of the same catalyst precursor.

=> d abs 5

L7 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2002 ACS

AB A method of performing a chem. reaction in which **hydrogenation** and/or **dehydrogenation** occurs involves a supported catalyst comprising a carrier material with Cu as active component and an Fe promotor, in which the proportion of Fe, calcd. based on the total amt. of Cu and Fe on an at. basis is .ltoreq. 25 %. More specifically, the proportion Fe is .gtoreq. 6 at.% and is preferably 10-20 at.%. The method is characterized by carrying out a **hydrogenation**, **dehydrogenation**, amination and/or hydrogenolysis.

=> d abs 4

L7 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2002 ACS

AB The use of SbCl₃, AlCl₃, CuCl₂, KOH, etc. as modifiers, which make Raney nickel functionalize both as metal (for **dehydrogenation** and **hydrogenation**) and acid-base (for Cannizzarro's reaction, aldol condensation and esterification) catalyst in the transformation of **ethanol** to EtOAc and BuOH was studied. The modified and non-modified Raney nickel were characterized by means of XPS so that the multi-functions could be clarified. The **ethanol** transformation reaction are carried out in a 100 mL stainless steel autoclave, the conditions are: 0.5 g of Raney nickel, 18 mL of **ethanol**, 170 .degree.C, 2.5 h. Raney nickel with SbCl₃ as modifier has the selectivity of 85% to EtOAc, but the non-modified Raney nickel only has the selectivity of 46.%. Among the modifiers, such as SbCl₃, AlCl₃, CuCl₂, (NH₃)₂Mo₂O₇ and KOH, SbCl₃ is the most effective one. The results show that both liq. byproducts and gas byproducts were depressed by the modifiers used. The prodn. of EtOAc was promoted by stronger acid, but the formation of BuOH was promoted by the base such as KOH.

=> s 15 and hydrogen

711636 HYDROGEN

4976 HYDROGENS

714489 HYDROGEN

(HYDROGEN OR HYDROGENS)

L8 11 L5 AND HYDROGEN

=> d 1-11

L8 ANSWER 1 OF 11 CAPLUS COPYRIGHT 2002 ACS

AN 2001:634678 CAPLUS

DN 135:332712

TI Development and operation of a new **ethanol** to **ethyl acetate** process

AU Colley, S. W.; Tuck, M. W. M.

CS Kvaerner Process Technology, London, UK

SO Preprints - American Chemical Society, Division of Petroleum Chemistry (2001), 46(4), 385-388

CODEN: ACPCAT; ISSN: 0569-3799

PB American Chemical Society, Division of Petroleum Chemistry

DT Journal

LA English

L8 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2002 ACS

AN 2000:645922 CAPLUS

DN 133:239710

TI Catalyst compositions for ester production from alcohols and aldehydes

IN Inui, Kanichiro; Takahashi, Takayoshi; Kurabayashi, Toru

PA Chisso Corporation, Japan

SO PCT Int. Appl., 25 pp.

CODEN: PIXXD2

DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000053314	A1	20000914	WO 2000-JP1397	20000308
	W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
PRAI	JP 1999-60136	A	19990308		
	JP 1999-263282	A	19990917		

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2002 ACS

AN 2000:240719 CAPLUS

DN 132:252790

TI Hydrogenation and distillation process for the purification of alkyl alkanooates

IN Colley, Stephen William; Harris, Norman; Rathmell, Colin

PA Kvaerner Process Technology Limited, UK

SO Eur. Pat. Appl., 22 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 992484	A1	20000412	EP 1998-308013	19981001
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			
	WO 2000020374	A1	20000413	WO 1999-GB3228	19990929
	W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	AU 9961071	A1	20000426	AU 1999-61071	19990929
	EP 1117630	A1	20010725	EP 1999-947694	19990929
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			
	BR 9914248	A	20011204	BR 1999-14248	19990929
	JP 2002526519	T2	20020820	JP 2000-574492	19990929
PRAI	EP 1998-308013	A	19981001		
	WO 1999-GB3228	W	19990929		

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 4 OF 11 CAPLUS COPYRIGHT 2002 ACS

AN 2000:240716 CAPLUS

DN 132:252789

TI Distillation process for the recovery of pure ethyl acetate from mixtures of ethyl acetate, ethanol and water

IN Colley, Stephen William; Fawcett, Christopher Richard; Sharif, Mohammad;
PA Tuck, Michael William Marshall; Watson, David John; Wood, Michael Anthony
SO Kvaerner Process Technology Limited, UK
Eur. Pat. Appl., 18 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 992482	A1	20000412	EP 1998-308010	19981001
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	WO 2000020373	A1	20000413	WO 1999-GB3226	19990929
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9961069	A1	20000426	AU 1999-61069	19990929
	EP 1117629	A1	20010725	EP 1999-947692	19990929
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2002526518	T2	20020820	JP 2000-574491	19990929
PRAI	EP 1998-308010	A	19981001		
	WO 1999-GB3226	W	19990929		

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 5 OF 11 CAPLUS COPYRIGHT 2002 ACS

AN 2000:227366 CAPLUS

DN 132:238697

TI Process for the manufacture of **ethyl acetate** from **ethanol**

IN Colley, Stephen William; Fawcett, Christopher Richard; Rathmell, Colin;
Tuck, Michael William Marshall

PA Kvaerner Process Technology Limited, UK

SO Eur. Pat. Appl., 22 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 990638	A1	20000405	EP 1998-308011	19981001
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	WO 2000020375	A1	20000413	WO 1999-GB3230	19990929
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9961073	A1	20000426	AU 1999-61073	19990929
	EP 1117631	A1	20010725	EP 1999-947696	19990929
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

IE, SI, LT, LV, FI, RO
JP 2002526520 T2 20020820 JP 2000-574493 19990929
PRAI EP 1998-308011 A 19981001
WO 1999-GB3230 W 19990929
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2002 ACS
AN 1998:627964 CAPLUS
DN 129:205166
TI Fuel cell **hydrogen** production by catalytic **ethanol**
-steam reforming
AU Amphlett, J. C.; Leclerc, S.; Mann, R. F.; Peppley, B. A.; Roberge, P. R.
CS Royal Military College of Canada, Kingston, ON, K7K 7B4, Can.
SO Proceedings of the Intersociety Energy Conversion Engineering Conference
(1998), 33rd, IECEC269/1-IECEC269/7
CODEN: PIECDE; ISSN: 0146-955X
PB Society of Automotive Engineers
DT Journal; (computer optical disk)
LA English

L8 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2002 ACS
AN 1998:562011 CAPLUS
DN 129:261982
TI **Ethanol Dehydrogenation** with a Palladium Membrane
Reactor: An Alternative to Wacker Chemistry
AU Raich, B. A.; Foley, Henry C.
CS Center for Catalytic Science and Technology Department of Chemical
Engineering, University of Delaware, Newark, DE, 19707, USA
SO Industrial & Engineering Chemistry Research (1998), 37(10), 3888-3895
CODEN: IECRED; ISSN: 0888-5885
PB American Chemical Society
DT Journal
LA English

L8 ANSWER 8 OF 11 CAPLUS COPYRIGHT 2002 ACS
AN 1997:35591 CAPLUS
DN 126:117851
TI The reaction of ammonia and **ethanol** or related compounds towards
pyridines over high-silica zeolites with medium pore size
AU le Febre, R. A.; Hoefnagel, A. J.; van Bekkum, H.
CS Lab. Org. Chem. Catalysis, Delft Univ. Technol., Delft, 2628, Neth.
SO Recueil des Travaux Chimiques des Pays-Bas (1996), 115(11/12), 511-518
CODEN: RTCPA3; ISSN: 0165-0513
PB Elsevier
DT Journal
LA English

L8 ANSWER 9 OF 11 CAPLUS COPYRIGHT 2002 ACS
AN 1997:26507 CAPLUS
DN 126:51579
TI Solid acid-base catalyst
IN Kishimoto, Nobuji; Matsunami, Etsushige
PA Nippon Shokubai Co., Ltd., Japan
SO Eur. Pat. Appl., 12 pp.
CODEN: EPXXDW
DT Patent
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 747123	A2	19961211	EP 1996-304095	19960605
	EP 747123	A3	19970402		
	R: DE, FR, GB				

JP 08332382 A2 19961217 JP 1995-142265 19950608
 JP 3260591 B2 20020225
 PRAI JP 1995-142265 A 19950608

L8 ANSWER 10 OF 11 CAPLUS COPYRIGHT 2002 ACS
 AN 1996:668168 CAPLUS
 DN 125:339891
 TI Study on the catalyst for **dehydrogenation** of **ethanol**
 to **ethyl acetate**
 AU Zhou, Ganggu; Wang, Xiaodong; Luo, Hongju; Yu, Genfu; Li, Weidong
 CS Southwest Institute of Chemical Industry, Ministry of Chemical Industry,
 Chengdu, 610041, Peop. Rep. China
 SO Tianranqi Huagong (1996), 21(3), 16-19
 CODEN: THTKEF; ISSN: 1001-9219
 PB Tianranqi Huagong Bianjibu
 DT Journal
 LA Chinese

L8 ANSWER 11 OF 11 CAPLUS COPYRIGHT 2002 ACS
 AN 1996:180993 CAPLUS
 DN 124:316490
 TI Synthesis of **ethyl acetate** by **dehydrogenation**
 of **ethanol** over Cu/ZnO/Al₂O₃/ZrO₂ catalyst. II. Catalyst
 characterization
 AU Yang, Shuwu; Zhou, Zhuohua
 CS School Chemical Engineering, Dalian University Technology, Dalian, 116012,
 Peop. Rep. China
 SO Cuihua Xuebao (1996), 17(1), 10-15
 CODEN: THHPD3; ISSN: 0253-9837
 PB Kexue
 DT Journal
 LA Chinese

=> d abs 11

L8 ANSWER 11 OF 11 CAPLUS COPYRIGHT 2002 ACS
 AB The structure, reducibility, acid-base properties and **ethanol**
 adsorption features of CuO.ZnO/Al₂O₃/ZrO₂ and its reduced state have been
 studied by X-ray diffraction (XRD), temp. programmed redn. (TPR) and temp.
 programmed desorption (TPD) techniques. It is shown that (a) ZnO, Al₂O₃
 and ZrO₂ are amorphous whether reduced or not; there are CuO crystallites,
 which exist as copper crystallites after redn. (B) there is only one
hydrogen consumption peak, and the existence of ZrO₂ significantly
 improves the redn. of catalysts. (C) there are two types of acid sites
 (100.degree.C and 340.degree.C) and weak base sites (90.degree.C) on
 CuO/ZnO/Al₂O₃/ZrO₂. (D) when **ethanol** is used as adsorbate, the
 desorption peak of **ethanol** is at 110 .degree.C; the lower-temp.
 products, **hydrogen** and acetaldehyde, are maximumly desorbed at
 210.degree.C, and the higher-temp. products, CO, CO₂ and acetone, are
 desorbed at above 300.degree.C; only a small peak of **Et**
acetate is detected.

=> d abs 10

L8 ANSWER 10 OF 11 CAPLUS COPYRIGHT 2002 ACS
 AB The Cu-Zn-Al catalyst (CNY-101) for **dehydrogenation** of
ethanol to **Et acetate** was prep'd. When anhyd.
ethanol was used as feed, its single pass conversion was >60%, the
 yield of **Et acetate** was >50% (mass), and the byproduct
 of the **ethanol dehydrogenation** was pure
hydrogen.

=> logoff